

COMPUTING

Significant people

Aspire London will:

- Develop pupils' knowledge and understanding of the world and people, past and present, who shape it
- Provide identifiable role models to raise ambition and aspiration

Community

Aspire London will:

- Immerse the children in the historically rich and diverse nature of London
- Give pupils an understanding of the positive impact of migration and a cultural appreciation of our community

Equality & Justice

Aspire London will:

- Empower pupils to be advocates who address issues of prejudice and discrimination
- Ensure pupils value fairness and resolve differences through positive discussion

Environmental Responsibility

Aspire London will:

- Educate children of the need to protect God's planet from environmental damage
- Create eco- friendly citizens who are aware of the impact of their individual actions and those of the wider world.



Autumn Term		Knowledge	Skills	Vocabulary
Year 1	Online Safety	Identify and recall the icons and resources available on MLE. Recall how to open, save and print. Understand and explain the importance of logging out.	Log in safely to MLE. Find saved work on a digital device and cloud based storage system. Search MLE to find resources. Begin to add pictures and text to work. Explore the sections within the MLE.	Avatar, log in, log out, notification, password, save, tools, topics, my work
	Grouping & Sorting 2Quiz (PurpleMash)	Understand that items can be sorted into groups. Explain similarities and differences between items. Explain what a database is.	Sort items using a range of criteria. Apply knowledge of 'Grouping' to sort and identify items in a database.	Criteria, sort
	Pictograms 2Count / 2Connect (PurpleMash)	Understand that data can be represented in picture format.	Contribute to a class pictogram. Use a pictogram to record the results of an experiment.	Collate, data, pictogram
Year 2	Coding 2 Code (PurpleMash)	Recall what block code is. Understand what an algorithm is. Explain what debugging is and how this applies to computer programs.	Design algorithms and then code them. Compare different object types. Select and use programming commands. Review and debug programs.	Action, algorithm, bug, character, code block, code design, command, debug, debugging, design mode, input, object, properties, repeat, scale, timer, when clicked, when key
	Online Safety 2Email (PurpleMash)	Know how to refine searches using search tools. <i>Understanding about how the Internet allows users to share globally.</i> Introduce Email as a communication tool. <i>Understand the concept of a digital footprint and how we leave information online.</i>	Use digital technology to share work, communicate and connect with others locally. Open and send simple online communications in the form of email. Understand how we should talk to others in an online situation. Identify the steps that can be taken to keep personal data and hardware secure.	Attachment, digital footprint, display board, email, internet, search, sharing
	Spreadsheets 2Calculate		Use spreadsheet tools to make a counting machine. Copy and paste cells and contents.	Backspace key, copy and paste, columns, cells,

	(PurpleMash)		Use totalling and equals tools for money calculations.	count tool, delete key, equals tool, image toolbox, lock tool, move cell tool, rows, speak tool, spreadsheet
Year 3	Coding 2Code (PurpleMash)	Understand what a variable is and its effect on a program. Deepen understanding of different repeat commands.	Design algorithms using flowcharts. Design an algorithm that represents a physical system and code this representation. Use selection in coding with the 'if' command.	Action, algorithm, bug, code block, code design, command, control, debug, debugging, design mode
	Online Safety 2Connect / 2Blog (PurpleMash)	Understand what makes a safe password. Recall and explain Methods for keeping passwords safe. <i>Understand what a blog is and how it can be used to communicate.</i> <i>Recall age restrictions symbols on digital media and devices and explain their meaning.</i>	Consider and evaluate the truth of the content of websites. Explain how the Internet can be used in effective communication.	Blog, concept map, internet, password, PEGI rating, spoof website, webpage, website
	Spreadsheets 2Calculate (PurpleMash)	Understand cell references and identify content based on this.	Use the symbols more than, less than and equal to, to compare values. Use spreadsheet software to collect data and produce graphs. To use the advanced mode of 2Calculate to learn about cell references.	<, >, =, advance mode, copy and paste, columns, cells, delete key, equals tool, move cell tool, rows, spin tool, spreadsheet
Year 4	Coding 2Code (PurpleMash)	To understand and use variables in 2Code. To learn about and use computational thinking terms; decomposition and abstraction.	To use selection in coding with the 'if/ else' command. To use flowcharts for design of algorithms including selection. To use the 'repeat until' with variables to determine the repeat.	Action, alert, algorithm, bug, code design, command, debug, debugging, design mode, event, get input, if, if/else, input, output, object, repeat, selection, simulation, timer, variable
	Online Safety 2Connect / 2Publish Plus	To understand how children can protect themselves from online identity theft.	To Identify the risks and benefits of installing software including apps. To consider the consequences of plagiarism.	Computer virus, cookies, copyright, digital footprint, email, identity theft,

	(PurpleMash)	<p>Understand that information put online leaves a digital footprint or trail and that this can aid identity theft.</p> <p>To understand that copying the work of others and presenting it as their own is called 'plagiarism'.</p> <p>To understand the importance of balancing game and screen time with other parts of their lives.</p>	<p>To identify appropriate behaviour when participating or contributing to collaborative online projects for learning.</p> <p>To identify the positive and negative influences of technology on health and the environment.</p>	malware, phishing, plagiarism, spam
	Spreadsheets 2Calculate (PurpleMash)	<p>Formatting cells as currency, percentage, decimal to different decimal places or fraction.</p> <p>Using the formula wizard to calculate averages.</p> <p>Combining tools to make spreadsheet activities such as timed times tables tests.</p> <p>Using a spreadsheet to model a reallife situation.</p> <p>To add a formula to a cell to automatically make a calculation in that cell.</p>		Average, advance mode, copy and paste, columns, cells, charts, equals tool, formula, formula wizard, move cell tool, random tool, rows, spin tool, spreadsheet, timer
Year 5	Coding 2Code (PurpleMash)	Recall and explain programming terminology	<p>Represent a program design and algorithm.</p> <p>Create a program that simulates a physical system using decomposition.</p> <p>Explore string and text variable types so that the most appropriate can be used in programs.</p> <p>Program a playable game, incorporating variables.</p>	Action, Alert, Algorithm, Bug, Code Design, Command, Control, Debug, Design Mode, Event, If, If/Else, Input, Output, Object, Repeat, Sequence, Selection, Simulation, Timer
	Online Safety Various (Purple Mash)	<p>Understanding of the impact that sharing digital content can have.</p> <p>Recall how to maintain secure passwords.</p> <p>State the advantages, disadvantages, permissions, and purposes of altering an image digitally and the reasons for this.</p> <p>Be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online.</p> <p>Explain how to reference sources in their work.</p>	<p>Review sources of support when using technology and children's responsibility to one another in their online behaviour.</p> <p>Search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information.</p> <p>Ensure reliability through using different methods of communication</p>	Online safety, Smart rules, Password, Reputable, Encryption, Identity theft, Shared image, Plagiarism, Citations, Reference, Bibliography

	Spreadsheets 2Calculate (Purple Mash)		Add a formula to a cell to automatically make a calculation in that cell. Using the formula wizard to add a formula to a cell to meet a purpose. Copy and paste cells within a spreadsheet. Use spreadsheet tools to test a hypothesis.	Average, Advance mode, Copy and Paste, Columns, Cells, Charts, Equals tool, Formula, Random tool, Rows, Formula Wizard, Spin Tool, Spreadsheet, Timer
Year 6	Coding 2Code (PurpleMash)		Use the program design process, including flowcharts, to develop algorithms for more complex programs using and understanding of abstraction and decomposition to define the important aspects of the program. Code, test and debug from these designs. Use functions and tabs in programming software to improve the quality of the code. Use input functions to create user interactivity.	Action, alert, algorithm, bug, code design, command, control, debug, debugging, event, get input, if, if/else, input, output, object, repeat, sequence, selection, simulation, timer, variable
	Online Safety 2DIY 3D / 2DIY / 2Code / 2Blog (PurpleMash)	Identify secure sites by looking for privacy seals of approval. Identify the benefits and risks of giving personal information. Understand what appropriate online behaviour entails. Understand how information online can persist. Understand the importance of balancing game and screen time with other parts of their lives.	Explain the meaning of a digital footprint. Investigate the benefits and risks of digital device sharing geolocation details. Identify the positive and negative influences of technology on health and the environment.	Digital footprint, password, PEGI rating, phishing, screen time, spoof website
	Spreadsheets 2Calculate (PurpleMash)		Use a spreadsheet to record results from an investigation. Using the formula wizard to add a formula to a cell to automatically make a calculation in that cell. Create graphs showing the data collected. Use a formula for a cell to automatically make a calculation in that cell.	Equals tool, formula, formula wizard, move cell tool, random tool, rows, spin tool, spreadsheet, timer

Spring Term		Knowledge	Skills	Vocabulary
Year 1	Lego Builders 2Quiz (PurpleMash)	Understand that an algorithm is a set of precise instructions.	Compare the effects of adhering strictly to instructions to completing tasks without complete instructions. Follow and create simple instructions on the computer. Consider how the order of instructions affects the result.	Algorithm, computer, debug, instruction, program
	Maze Explorers 2Go (PurpleMash)	Understand the functionality of the direction keys. Understand how to create and debug a set of instructions (algorithm). Understand how to change and extend the algorithm list.	Select appropriate keys as part of an algorithm. Create a longer algorithm for an activity. Access challenges to complete.	Algorithm, arrow, backwards, challenge, debug, direction, forward, instruction, left turn, rewind, right turn, undo
	Animated Story Books 2Create A Story (PurpleMash)	Understand what an e-book is.	Add animation to a story. Add sound to a story, including voice recording and music the children have composed. Create more complex story by adding self-selected components. Share e-books to an audience.	Animation, display board, e-book, file, font, sound effect
Year 2	Questioning 2Question / 2Investigate / 2Calculate (PurpleMash)	Understand about different types of data handling tool. Understand what a binary tree/branching database is.	Use yes/no questions to separate information. Construct a binary tree to identify items. Use a binary tree database to answer questions.	Avatar, binary tree, collate, data, database, pictogram, question
	Effective Searching 2Quiz (PurpleMash) Web Browser	Understand the terminology associated with searching.	Evaluate the effectiveness of search techniques. Present understanding of internet searching to an audience.	Internet, search, search engine
	Creating Pictures 2Paint A Picture	Recall the functions and tools of paint software.	Use paintbrush tool to recreate work of artists. Use paint software tools to repeat patterns. Use clipart to create eCollage.	Impressionism, palette, pointillism, share, surrealism, template

	(PurpleMash)			
Year 3	Touch typing 2Type (PurpleMash)	Introduce typing terminology. Understand the correct way to sit at the keyboard.	Learn how to use the home, top and bottom row keys. Practise typing with the left and right hand.	Bottom row keys, home row keys, posture, space bar, top row keys
	Email 2Email (PurpleMash)	Understand different methods of communication. Learn how to use email safely.	Open and respond to an email using an address book. Add an attachment to an email. Explore a simulated email scenario.	Address book, attachment, CC, communication, compose, email, formatting, password, report to teacher, save to draft, send
	Branching Databases 2Question (PurpleMash)	Recall what a database is. Identify examples of databases used in daily life.	Sort objects using just 'yes' or 'no' questions. Complete a branching database. Create a branching database.	Branching database, data, database, question
Year 4	Publishing 2Simulate / 2Connect / 2Publish Plus (PurpleMash)	Identify and recall the icons and functions of publishing software	Explore how font size and style can affect the impact of a text. Use a simulated scenario to produce a news report. Use a simulated scenario to write for a community campaign.	Bold, font, italic, underline
	Logo 2Logo (PurpleMash)	Use the Repeat function in Logo to create shapes. Use and build procedures in Logo.		Logo, BK, FD, LT, PD, PU, Repeat, RT, SETPC, SETPS
	Animation 2Animate (PurpleMash)	Learn how animations are created by hand. Learn what 'stop motion' animation is. Understand the functions of animation software, including onion skinning.	Evaluate what makes a good animation. Add backgrounds and sounds to animations. Share animation digitally with an audience.	Animation, background, flipbook, frame, onion skin, play, sound, stop motion, video clip
Year 5	Databases	Recall what a database is. Identify databases in daily life. Recall what a binary tree is.	Learn how to search for information in a database. Contribute to a class database. Create a database around a chosen topic.	Avatar, Binary Tree, Branching Database, Charts, Collaborative,

	2Question & 2Investigate (Purple Mash)			Data, Database, Find, Record, Sort, Group, Arrange, Statistics, Reports, Table
	Game Creator 2DIY3D (Purple Mash)	Identify examples of quest games. Recall features of an effective game.	Explore a computer programming environment. Design, create and debug a game quest. Evaluate their and peers' games.	Animation, Computer Game, Customise, Evaluation, Image, Instructions, Interactive, Screenshot, Texture, Perspective, Playability
Year 6	Blogging 2Blog (PurpleMash)	Identify the purpose of writing a blog and its key features. Understand the importance of regularly updating the content of a blog. Understand how to contribute to an existing blog. Understand how and why blog posts are approved by the teacher. Understand the importance of commenting on blogs.	Plan the theme and content for a blog and write the content. Consider the effect upon the audience of changing the visual properties of the blog.	Audience, blog, blog page, blog post, collaborative, icon
	Text Adventures 2Code / 2Connect / 2Create a Story (PurpleMash)	Understand what a text adventure is and identify similarities and differences with other games programs. Recall features of a computer programming environment. Understand terminology related to computer programming.	Plan and design a story adventure. Make a story-based adventure. Introduce map-based text adventures. Code a map-based text adventure use coding concepts of functions, two way selection (if/else statements) and repetition	Text-based adventure, concept map, debug, sprite, function
	Networks 2Connect (PurpleMash)	Understand what the Internet consists of. Identify the difference between LAN and WAN.	Explore how the Internet is accessed in school. Research and find out about the age of the Internet. Think about what the future might hold.	Internet, local area network (LAN), network, network cables, router, wide area network (WAN), wireless, World Wide Web

Summer Term		Knowledge	Skills	Vocabulary
Year 1	Coding 2Code (PurpleMash)	Understand what coding means. Define the term 'algorithm'. Understand what block code is. Know the save, print, open and new icon.	Use design mode to set up a scene. Use code blocks to make the character perform actions.	Action, background, button, character, code block, code design, coding, collision detection, command, design mode, input, object, program, properties, scale, stop (command), sound, when clicked, when key
	Spreadsheets 2Calculate (PurpleMash)	Know what a spreadsheet program looks like. Explain what rows, columns and cells are.	Enter data into spreadsheet cells. Use image tools to add clipart to cells. Use control tools: lock, move cell, speak and count.	Arrow keys, backspace key, cursor, columns, cells, clipart, count tool, delete key, image toolbox, lock tool, move cell tool, rows, speak tool, spreadsheet
	Technology outside school	Understand what the term 'technology' means.	Explore and identify examples of where technology is used in and outside school.	Technology
Year 2	Making Music 2Sequence (PurpleMash)	Understand how inputs can affect outputs.	Explore, edit and combine sounds using music production software. Edit and refine composed music. Upload a sound from a sound library. Record and upload environmental sounds into MLE.	BPM, composition, digitally, instrument, music, sound effects (sfx), soundtrack, tempo, volume
	Presenting Ideas 2Connect / 2Create a Story / 2Quiz (PurpleMash)	Know that stories can be presented in different ways.	Create a quiz using quizzing software. Create a fact file using publishing software, including images and graphs. Create a multi-media presentation by including appropriate media.	Animated, audience, concept map / mind map, narrative, node, non-fiction, presentation

Year 3	Simulations 2Simulate (PurpleMash)	Consider what simulations are.	Explore a simulation. Analyse and evaluate a simulation by comparing it to real life.	simulation
	Graphing 2Graph (PurpleMash)	Identify different types of graph. Understand the differences between different types of graph.	Enter data into a graph and answer questions. Solve an investigation and present the results in graphic form. Evaluate the appropriateness of different graphs to suit a purpose.	Bar chart, block graph, column, data, field, graph, line graph, pie chart, row
	Multimedia Presentations PowerPoint (Office365)	Understand the uses of Multimedia presentation software.	Explore a range of multimedia presentations Create a page in a presentation, using media, animations and timings. Use the skills learnt to design and create an engaging presentation. Evaluate the effectiveness of a presentation.	Animation, audio, design templates, entrance animation, font, media, presentation, presentation program, slide, slideshow, stock image, text box, text formatting, transition, WordArt
Year 4	Effective Searching 2Quiz / 2Connect (PurpleMash) Web browser	Understand what a search engine is. Recall how a web browser works.	Locate information on the search results page. Use search effectively to find out information. Analyse the contents of a web page for clues about the credibility of the information. Assess whether an information source is true and reliable.	Easter egg, internet, internet browser, search, search engine, spoof website
	Hardware Investigators 2Quiz / 2Connect (PurpleMash)	Understand the different parts that make up a computer. Recall the different parts that make up a computer.		CPU, graphics card, keyboard, monitor, motherboard, mouse, network card, RAM
	Making Music Busy Beats	Identify and discuss the main elements of music. Understand and experiment with rhythm and tempo.		Dynamic, house music, melody, pitch, pulse, rhythm, rippler, tempo, texture

		Create a melodic phrase. Electronically compose a piece of music		
Year 5	3D Modelling 2Animate	Introduced to 2Design and Make and the skills of computer aided design. Explore the effect of moving points when designing. Understand designing for a purpose. Understand printing and making.		CAD – Computer aided Design, Modelling, 3D, Viewpoint, Polygon, 2D, Net, 3D Printing, Points, Template
	Concepts Maps 2Connect	Understand the need for visual representation when generating and discussing complex ideas. Understand and use the correct vocabulary when creating a concept map. Create a concept map. Understand how a concept map can be used to retell stories and present information. Create a collaborative concept map and present this to an audience.	•	Audience, Collaboratively, Concept, Concept Map, Connection, Idea, Node, Thought, Visual
	Word Processing Word (Office365)	Know what a word processing tool is for. Add and edit images to a word document. Know how to use word wrap with images and text. Change the look of text within a document. Add features to a document to enhance its look and usability. Use tables within MS Word to present information. Introduce pupils to templates and the pdf format. Consider page layout including heading and columns.	•	Copyright, Cursor, Document, Font, In-built styles, Merge cells, Paragraph formatting, Text formatting, Text wrapping, Word Art, Word Processing tool, Readability, Template
Year 6	Quizzing 2DIY 2Quiz 2Investigate	Create a picture-based quiz for young children. Learn how to use the question types within 2Quiz. Explore the grammar quizzes.		Audience, collaboration, concept map, database, quiz

	(PurpleMash)	Make a quiz that requires the player to search a database. Make a quiz to test your teachers or parents.		
	Understanding Binary 2Connect / 2Question /2Code (PurpleMash)	Know what the terms binary and denary mean and how they relate to the number system, the digital system and the terms base-10 and base-2 Relate binary to the on and off states of electrical switches. Convert numbers from decimal to binary. Convert numbers from binary to decimal. Represent states of object in their own program using binary.		Base 10, Base 2, binary, bit, byte, decimal, denary, digit, gigabyte (GB), integer, kilobyte (KB), machine code, megabyte (MB), nibble, switch, tetrabyte (TB), transistor, variable
	Spreadsheets Excel (Office365)	Know what a spreadsheet looks like. Navigate and enter data into cells. Introduce some basic data formulae in Excel for percentages, averages and max and min numbers. Demonstrate how the use of Excel can save time and effort when performing calculations. Use a spreadsheet to model a reallife situation. Demonstrate how Excel can make complex data clear by manipulating the way it is presented. Create a variety of graphs in Excel.		Alignment, calculate, cell, cell reference, chart, column, formula€, function, range, row, spreadsheet, style, sum, text wrapping, value, workbook